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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* PETER IRMA AUGUST BARRI, JEAN LOUIS CALVIGNAC,  
KENT HAROLD HASELHORST, MARCO C. HEDDES,  
JOSEPH FRANKLIN LOGAN, FABRICE JEAN VERPLANKEN, and  
MIROSLAV VRANA

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Appeal 2007-004512  
Application 09/990,840  
Technology Center 2100

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Decided: August 13, 2009

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Before LEE E. BARRETT, JOSEPH L. DIXON, and  
HOWARD B. BLANKENSHIP, *Administrative Patent Judges*.

DIXON, *Administrative Patent Judge*.

**DECISION ON APPEAL**

**I. STATEMENT OF THE CASE**

A Patent Examiner rejected claims 1-4, 24-27, 33, and 34. The Appellants appeal therefrom under 35 U.S.C. § 134(a). We have jurisdiction

Appeal 2007-004512  
Application 09/990,840

under 35 U.S.C. § 6(b). Claims 10-23 and 29-32 have been canceled and claims 5-9 and 28 are objected to. Claims 35 and 36 were objected to by the Examiner and claim 36 was attempted to be canceled in after Final amendment, filed January 23, 2006, but the Examiner never mailed an Advisory Action in response thereto indicating the status of the amendment. Nor has the Examiner indicated any response to this amendment. Subsequent thereto, in Appellants' amended Brief, filed December 7, 2006, the claims appendix did not include claims 35 and 36. Therefore, our decision does not address claims 35 and 36.

#### A. INVENTION

The invention at issue on appeal stores (writes) data across multiple memory banks or slices and retrieves (reads) the stored data across the multiple memory banks. Preferably, the write/read activities are done simultaneously on different memory banks or slices. In addition, consecutive sectors of the same frame are spread over different memory slices which improves the effectiveness of the device (network processor) to handle long frames. (Spec.2.)

#### B. ILLUSTRATIVE CLAIM

Claim 1, which further illustrates the invention, follows.

1. A system comprising:  
N different memories wherein N> 1;

M different busses with each one of the M different busses having a bandwidth to transport data at a predetermined rate, operatively coupled to each one of the N memories wherein M is greater than 1;

a plurality of different memory controllers with each one of the plurality of different memory controllers operatively coupled to one of the N memories, wherein said each one of the plurality of memory controllers setting an associated different memory in at least a first mode; and

a single arbiter responsive to at least one signal requesting access to the N different memories wherein said single arbiter generates an Access vector that causes information to be read simultaneously from multiple ones of the N different memories set in the at least a first mode wherein total bandwidth on selected ones of the M different busses of the N different memories is greater than the bandwidth on a single bus of the M different busses of the N different memories.

### C. REFERENCES

The Examiner relies on the following references as evidence:

Bass	US 6,460,120 B1	Oct. 1, 2002 (filed Aug. 27, 1999)
Bartoldus	US 6,560,227 B1	May 6, 2003 (filed Feb. 23, 1998)

Donner, Patent Prosecution: *Practice & Procedure Before the U.S. Patent Office*, 2<sup>nd</sup> Ed. 1999, The Bureau of National Affairs, Inc., 241-247.

Appellants' Admitted Prior Art (AAPA).

#### D. REJECTIONS

Claims 1-4, 25, 26, 33, and 34 are rejected under 35 U.S.C. § 102(e) as being anticipated by Bass.

Claim 24 is rejected under 35 U.S.C. § 103(a) as being obvious over Bartoldus in view of Bass.

Claim 27 is rejected under 35 U.S.C. § 103(a) as being obvious over Bartoldus in view of Bass and Appellants' Admitted Prior Art (AAPA).

#### II. ISSUE

Have Appellants shown error in the Examiner's initial showing of anticipation? Specifically, are Appellants' declaration(s) sufficient to antedate the Bass reference?

Have Appellants shown error in the Examiner's initial showing of obviousness?

#### III. PRINCIPLES OF LAW

##### MPEP 716.10 Attribution

Under certain circumstances an affidavit or declaration may be submitted which attempts to attribute an activity, a reference or part of a reference to the applicant. If successful, the activity or the reference is no longer applicable. When subject matter, disclosed but not claimed in a patent application filed jointly by S and another, is claimed in a later application filed by S, the joint patent or joint patent application publication is a valid reference available as prior art under 35 U.S.C. 102(a), (e), or (f) unless overcome by affidavit or declaration under 37 CFR 1.131 showing prior invention (see MPEP § 715) or an unequivocal declaration by S under 37 CFR 1.132 that he or she conceived or invented the subject matter disclosed in the patent or published application. Disclaimer by the other patentee or other

applicant of the published application should not be required but, if submitted, may be accepted by the examiner.

Where there is a published article identifying the authorship (MPEP § 715.01(c)) or a patent or an application publication identifying the inventorship (MPEP § 715.01(a)) that discloses subject matter being claimed in an application undergoing examination, the designation of authorship or inventorship does not raise a presumption of inventorship with respect to the subject matter disclosed in the article or with respect to the subject matter disclosed but not claimed in the patent or published application so as to justify a rejection under 35 U.S.C. 102(f).

However, it is incumbent upon the inventors named in the application, in response to an inquiry regarding the appropriate inventorship under 35 U.S.C. 102(f) or to rebut a rejection under 35 U.S.C. 102(a) or (e), to provide a satisfactory showing by way of affidavit under 37 CFR 1.132 that the inventorship of the application is correct in that the reference discloses subject matter derived from the applicant rather than invented by the author, patentee, or applicant of the published application notwithstanding the authorship of the article or the inventorship of the patent or published application. *In re Katz*, 687 F.2d 450, 455, 215 USPQ 14, 18 (CCPA 1982) (inquiry is appropriate to clarify any ambiguity created by an article regarding inventorship and it is then incumbent upon the applicant to provide "a satisfactory showing that would lead to a reasonable conclusion that [applicant] is the ... inventor" of the subject matter disclosed in the article and claimed in the application).

An uncontradicted "unequivocal statement" from the applicant regarding the subject matter disclosed in an article, patent, or published application will be accepted as establishing inventorship. *In re DeBaun*, 687 F.2d 459, 463, 214 USPQ 933, 936 (CCPA 1982). However, a statement by the applicants regarding their inventorship in view of an article, patent, or published application may not be sufficient where there is evidence to the contrary. *Ex parte Kroger*, 218 USPQ 370 (Bd. App. 1982) (a rejection under 35 U.S.C. 102(f) was affirmed notwithstanding declarations by the alleged actual inventors as to their inventorship in view of a nonapplicant author

submitting a letter declaring the author's inventorship); *In re Carreira*, 532 F.2d 1356, 189 USPQ 461 (CCPA 1976) (disclaiming declarations from patentees were directed at the generic invention and not at the claimed species, hence no need to consider derivation of the subject matter).

A successful 37 CFR 1.132 affidavit or declaration establishing derivation by the author, patentee, or applicant of the published application of a first reference does not enable an applicant to step into the shoes of that author, patentee, or applicant of the published application in regard to its date of publication so as to defeat a later second reference. *In re Costello*, 717 F.2d 1346, 1350, 219 USPQ 389, 392 (Fed. Cir. 1983).

### 35 U.S.C. § 102

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. We determine the scope of the claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The properly interpreted claim must then be compared with the prior art.

Appellants have the opportunity on appeal to the Board to demonstrate error in the Examiner’s position. See *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006).

35 U.S.C. § 103(a)

Section 103 forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”

*KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

In *KSR*, the Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art," *id.* at 415, and discussed circumstances in which a patent might be determined to be obvious. *Id.* at 415-16 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966)). The Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 417.

The Federal Circuit recently recognized that "[a]n obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not." *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 416). The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was "uniquely

challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Id.* at 1162 (citing *KSR*, 550 U.S. at 418).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

#### IV. ANALYSIS

We will address Appellants' arguments in the order presented in the Appeal Brief.

We note Appellants' indicated in the Appeal Brief at page 2 that the "real parties in interest are Assignees Alcatel and International Business Machines Corporation (IBM)." The front page of the Bass reference indicates the singular Assignee as International Business Machines Corporation. Therefore, we find a different assignee in addition to the different group of inventors listed for the Bass patent in the instant application with three inventors in common.

MPEP 716.16 identifies that an uncontradicted "unequivocal statement" from the applicant regarding the subject matter disclosed in the article, patent, or published application will be accepted as establishing inventorship. Appellants' submitted declaration states:

[t]o the extent that any subject matter claimed in the above-identified patent application was included in United States Patent 6,460,120 filed by..., we believe that such conclusion was based on details of the present invention disclosed by us, the inventors of the above-identified patent application. Thus, the part of the Bass et al. patent which includes material claimed in the above-identified patent application should be attributed to us.

(Declaration, paragraph 3). Appellants contend that the declarations submitted by each of the inventors are identical, and Appellants assert "paragraphs 2 and 3 of the Declaration unequivocally states Appellants are the inventors of the subject matter disclosed but not claim [sic, claimed] in U.S. 6,460,120 B1 (Bass). There is no evidence in the record to contradict this unequivocal assertion of inventorship." (App. Br. 7). The Examiner maintains that Appellants have not shown evidence supporting, or facts alleging, that would support overcoming the rejection and that "[m]erely indicating that the application inventors "believe" that the inclusion of the subject matter in the patent was based on details of the present invention disclosed by the application inventors does not constitute facts or evidence" (Ans. 13). The Examiner further maintains that the inventor's statement that the inventors "... frequently exchanged information within IBM..." does not constitute relevant facts or evidence. (*Id.*).

We agree with the Examiner and find Appellants' statement to be less than an "unequivocal statement," as required. Furthermore, paragraph 4 of the Declaration states that:

five of the inventors listed in paragraphs 2 and 3 above were employed by International Business Machines Corporation (IBM) at the time the present invention was conceived. All of those inventors frequently exchanged information within IBM, including ideas about the design of the overall system which included the invention of the above-identified patent application, as well as other inventions, including the invention claimed in the Bass et al. patent mentioned above.

Again, the Declaration does not provide an "unequivocal statement," and merely states that five unspecified inventors were employed and exchanged some information within IBM. We will not speculate as to who

communicated or what was communicated, and we are left with less than an unequivocal statement which establishes inventorship. Therefore, Appellants' Declaration is insufficient to exclude the Bass patent as a qualifying prior art reference under 35 U.S.C. § 102(e). Therefore, we look to Appellants' substantive arguments to the merits of the Examiner's rejections under anticipation and obviousness.

## ANTICIPATION

With respect to independent claim 1, Appellants contend that the structure set forth in Bass fails to teach the single arbiter performing functions as claimed in claim 1. (App. Br. 8-9). Appellants further contend that the structure of the memory and its description as disclosed in Bass could not be reasonably construed to teach a single arbiter having access to multiple memories ... causing simultaneously reading of multiple ones wherein total bandwidth exceeds the bandwidth on a single bus, as claimed.

The Examiner in the statement of the rejection at page 3 of the Answer identifies that “[t]he plurality of arbiters... comprise the TSM Arbiter.” The Examiner further explains at page 15 in the responsive arguments section that the "TSM arbiter of Bass et al. comprises multiple memory arbiters, and it is these multiple memory arbiters (contained within the single TSM arbiter) that perform the operations." The Examiner further maintains that the claimed subject matter does not prohibit the use of multiple sub-arbiters within a master arbiter (TSM arbiter) from performing the claimed operations. Appellants have not provided any response to the Examiner's further explanation of the use of multiple sub-arbiters within a master arbiter (TSM arbiter) as is clearly shown in Figure 13 wherein the

TSM arbiter is identified within the dashed box. Appellants have filed no Reply Brief to respond to the Examiner's position. Since Bass clearly identifies the TSM arbiter as a singular entity, we find Appellants' general argument to be unpersuasive of error in the Examiner's initial showing of anticipation.

Appellants further contend that the Examiner's apparent reliance upon inherency is "not applicable" (App. Br. 9), but does not explain why inherency is not applicable in this anticipation rejection. The Examiner in the responsive arguments further clarifies how "the sum of all parts (bandwidth of all buses totaled together) is greater than the bandwidth of a single bus." (Answer 16). We agree with the Examiner's rationale. Therefore, Appellants' argument does not show error in the Examiner's reliance upon inherency in the teachings of Bass.

With respect to the rejection of dependent claim 3, Appellants contend that the claimed invention calls for DDR DRAMs. (App. Br. 9). We find that Appellants argument does not address the merits of the Examiner's rejection as set forth in the Answer and does not show error therein.

With respect to dependent claim 4, Appellants contend that Bass does not teach partitioning the memory into at least four banks with a buffer spread across 4 banks. (App. Br. 9). Appellants contend that they have reviewed the teachings of Bass et al. Col. 9, lines 51-60 and did not find any teachings or suggestion of spreading a buffer over 4 banks of the same DDR DRAM as set forth in claim 4, but Appellants do not explain why Bass does not teach this claimed feature. From our review of the teachings of Bass at column 25, lines 14-19, Bass teaches that the M memories and N Requester's are homogeneous: any Requester can access any memory. Some memories

are logically divided into multiple sub-memories (like 4 banks in the DDRAM), which can be logically accessed simultaneously. This portion of Bass appears to support the Examiner's position concerning a buffer memory spread across four banks. Therefore, Appellants' argument does not show error in the Examiner's initial showing of anticipation.

With respect to independent claim 25, Appellants contend that none of the limitations of claim 25 beyond providing a plurality of separate memories in which data is stored are found in Bass. (App. Br. 10). The Examiner maintains at page 17 of the Answer that the same application of the prior art of Bass applies as set forth with respect to independent claim 1. Again, Appellants contend that in the Examiner's position is in error wherein Bass teaches multiple arbiters rather than a single arbiter as recited in independent claim 25. As discussed above with respect to claim 1, we find Appellants' argument to be unpersuasive of error in the Examiner's initial showing of anticipation, and we will sustain the rejection of independent claim 25.

With respect to dependent claim 26, Appellants contend that there is no teaching in Bass concerning dependent claim 26. (App. Br. 10-11). The Examiner relies upon an inherency argument similar to that advanced with respect to dependent claim 2 (Answer 17) where the sum of the bandwidths of all activated buses would necessarily be less than the bandwidth of data on each of the individual buses. We agree with the Examiner's position as discussed above with respect to dependent claim 2, and we find Appellants' argument unpersuasive of error in the Examiner's initial showing of anticipation.

With respect to independent claim 33, Appellants rely upon the arguments advanced with respect to independent claim 1 and dependent claim 4. (App. Br. 11). Since we found Appellants' prior arguments to be unpersuasive of error, we similarly find Appellants' arguments to be unpersuasive of error with respect to independent claim 33.

With respect to dependent claim 34, Appellants contend that Bass does not teach a single arbiter causing spread buffer to be written in one memory and spread buffer to be read from another memory since Bass teaches each memory has a dedicated arbiter which cannot access a memory other than the one which it controls. (App. Br. 11). The Examiner maintains at page 18 of the Answer that the discussions with respect to claims 1 and 4 address Appellants' arguments. Appellants rely upon the "single arbiter" argument which has been addressed above with respect to independent claim 1 and was not persuasive of error in the Examiner's initial showing of anticipation. Similarly, we find Appellants' argument to be unpersuasive of error in the Examiner's initial showing of anticipation.

#### OBVIOUSNESS

With respect to independent claim 24, Appellants argue that Bass does not teach the limitation asserted by the Examiner for the simultaneous reading of separate memory elements or the simultaneous availability of data on separate bus or single arbiter enabling these functions. (App. Br. 12-13). Again, Appellants' arguments are based upon the position that Bass does not teach a single arbiter, which we found unpersuasive of error above. Furthermore, the Examiner's position was further discussed at pages 18-19 of the Answer. The Examiner maintains that a memory may be logically

divided and are separate (logical) memories and may be simultaneously accessed. Here, the language of independent claim 24 does not specifically recite any specific structure or functional limitations beyond storing 2 parts into different ones of the plurality of separate memory elements. We find Appellants' argument to be unpersuasive of error in the Examiner's initial showing of obviousness of independent claim 24.

Appellants argue at page 13 of the Brief that the novel structure and benefits are indicia of unobviousness. We note independent claim 24 is directed to the statutory class of a "method" rather than a structure (machine or manufacture), therefore, we do not find Appellants' argument to be particularly relevant to the nonobviousness of the method. Appellants further argue that as a consequence, the structure of the claim is novel in the benefit provided by the claimed invention is a low cost high density memory system, but again the claimed invention is directed to a method not "a low cost high density memory system." Therefore, Appellants' argument is unpersuasive of error in the Examiner's initial showing of obviousness. Furthermore, Appellants have provided no extrinsic evidence of secondary considerations of nonobviousness.

With respect to independent claim 27, Appellants contend that the references when combined do not teach the last limitation in the method of independent claim 27, but Appellants' contention does not address the Examiner's rejection as set forth at pages 9-10 of the Answer. Therefore, Appellants' argument does not show error in the Examiner's initial showing of obviousness of independent claim 27. Appellants further rely upon the arguments of the novel structure and the benefits as indicia of nonobviousness as discussed with respect to independent claim 24. We

Appeal 2007-004512  
Application 09/990,840

found those arguments to be unsupported and unpersuasive of error in the Examiner's initial showing of obviousness.

#### V. CONCLUSION

For the aforementioned reasons, Appellants not disqualified the Bass patent reference under 35 U.S.C. § 102(e) and Appellants have not shown error in the Examiner's initial showing of anticipation. Appellants have not shown that Bass does not teach the use of a "single arbiter." Additionally, Appellants have not shown error in the Examiner's initial showing of obviousness.

#### VI. ORDER

We affirm the anticipation rejection of claims 1-4, 25, 26, 33, and 34; and affirm the obviousness rejections of claims 24 and 27.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). See 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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IBM CORPORATION  
PO BOX 12195  
DEPT YXSA, BLDG 002  
RESEARCH TRIANGLE PARK, NC 27709